

Status of Claims:

1. (Withdrawn) A circuit board comprising:

an insulated substrate;

a conductor circuit formed on one side of said substrate; and

two-layer conductor posts electrically connected to said conductor circuit;

wherein each of said two-layer conductor posts is formed in a hole piercing said insulated substrate and comprises a projecting terminal having its one end

connected to said two-layer conductor circuit and its other end projecting from the other side of said insulated substrate, and a metal coating layer covering the portion of said terminal that projects out from the other side of said insulated substrate.
2. (Withdrawn) A circuit board according to claim 1 wherein the metal coating layer is composed of at least one metal selected from the group consisting of gold, silver, nickel, tin, lead, zinc, bismuth, antimony and copper, or an alloy containing such metals.
3. (Withdrawn) A circuit board comprising:

an insulated substrate;

a conductor circuit formed on one side of said insulated substrate; and

two-layer conductor posts electrically connected to said conductor circuit;

wherein an adhesive layer having a function of flux is provided on one or both sides of said insulated substrate.

4. (Withdrawn) A circuit board comprising:

an insulated substrate;

a conductor circuit formed on one side of said insulated substrate; and

two-layer conductor posts electrically connected to said conductor circuit;

wherein a surface coating is provided on one side of said insulated substrate, said coating covering said conductor circuit with a part thereof left uncovered, and an adhesive layer having a flux function is provided on the other side of said insulated substrate.
5. (Withdrawn) A circuit board according to claim 1 wherein said two-layer conductor posts contain copper and a metal or copper and an alloy.
6. (Withdrawn) A circuit board according to claim 3 wherein each of said two-layer conductor posts is formed in a hole piercing said insulated substrate, and comprises a protruding terminal of which one end is connected to said conductor circuit and the other end projects from the other side of said insulated substrate, and a metal coating layer covering the portion of said protruding terminal which projects from the other side of said insulated substrate.
7. (Withdrawn) A circuit board according to claim 6 wherein said metal coating layer is made of at least one metal selected from the group consisting of gold, silver, nickel, tin, lead, zinc, bismuth, antimony and copper, or an alloy containing such metals.
8. (Withdrawn) A multilayer wiring board comprising a laminate of plural circuit boards including the one set forth in claim 1.
9. (Withdrawn) A multilayer wiring board comprising a laminate of plural circuit boards including the one set forth in claim 3.
10. (Withdrawn) A multilayer wiring board comprising a laminate of plural circuit boards including the one set forth in claim 1 and a circuit board comprising:

an insulated substrate;

a conductor circuit formed on both sides of said insulated substrate;
a metallic layer formed covering a part of said conductor circuit; and
a surface coating covering the portion of said conductor circuit other than said metallic layer.

11. (Withdrawn) A multilayer wiring board comprising a laminate of plural circuit boards including a first circuit board comprising:

an insulated substrate;
a conductor circuit formed on one side of said substrate; and
two-layer conductor posts electrically connected to said conductor circuit;

wherein each of said two-layer conductor posts is formed in a hole piercing said insulated substrate and comprises a projecting terminal having its one end connected to said two-layer conductor circuit and its other end projecting from the other side of said insulated substrate, and a metal coating layer covering the portion of said terminal that projects out from the other side of said insulated substrate,

a second circuit board according to claim 3;

and a third circuit board, comprising:

an insulated substrate;
a conductor circuit formed on both sides of said insulated substrate;
a metallic layer formed covering a part of said conductor circuit; and
a surface coating covering the portion of said conductor circuit other than said metallic layer.

12. (Withdrawn) A multilayer wiring board in which the circuit board set forth in claim 1 is joined to both sides of another circuit board set forth below, and the conductor circuits of the

respective circuit boards are electrically connected at the specified sites through said conductor posts, said another circuit board comprising:

- an insulated substrate;
- a conductor circuit formed on both sides of said insulated substrate;
- a metallic layer formed covering a part of said conductor circuit; and
- a surface coating covering the portion of said conductor circuit other than said metallic layer.

13. (Withdrawn) A multilayer wiring board in which a first circuit board comprising:

- an insulated substrate;
- a conductor circuit formed on one side of said insulated substrate; and
- two-layer conductor posts electrically connected to said conductor circuit;

wherein an adhesive layer having a function of flux is provided on one or both sides of said insulated substrate, is joined to both sides of another circuit board set forth below, a circuit board set forth in claim 1 is joined to said both circuit boards, and the conductor circuits of the respective circuit boards are electrically connected at the specified positions through said conductor posts, said another circuit board comprising:

- an insulated substrate;
- a conductor circuit formed on both sides of said insulated substrate;
- a metallic layer formed covering a part of said conductor circuit; and
- a surface coating covering the portion of said conductor circuit other than said metallic layer.

14. (Withdrawn) A multilayer wiring board according to claim 11 wherein said surface coating includes an adhesive layer.

15. (Withdrawn) A multilayer wiring board according to claim 7 having a multilayer portion comprising a laminate of plural circuit boards, and a single-layer portion to which at least one circuit board in said multilayer portion extends therefrom.

16. (Withdrawn) A multilayer wiring board according to claim 15 wherein the circuit board constituting said single-layer portion is a flexible circuit board.

17. (Previously Presented) A multilayer flexible wiring board comprising (i) a plurality of single-sided wiring boards having a wiring pattern formed on one side of a substrate made of an insulating material and two-layer conductor posts made of copper and a metal or copper and an alloy, each of said conductor posts projecting from said wiring pattern to a side of said substrate opposite from said wiring pattern, with each substrate other than that of an outermost layer having, on the side opposite from said conductor posts, a plurality of pads for making connection to the conductor posts, and said wiring pattern having no surface coating, (ii) a flexible wiring board having on at least one side thereof the pads for connection to said conductor posts and comprising a wiring pattern with surface coating applied on a flexible portion but no surface coating applied on a multilayer portion, and (iii) an adhesive layer having a flux function whereby respective boards are laminated integrally, wherein said conductor posts and pads are connected by a metal or an alloy through the medium of said adhesive layer, and said wiring patterns are electrically connected.

18. (Original) A multilayer flexible wiring board according to claim 17 wherein said flexible wiring board is a severed individual piece.

19. (Previously Presented) A multilayer flexible printed wiring board according to claim 17 wherein the metal is at least one of gold, silver, nickel, tin, lead, zinc, bismuth, antimony and copper.

20. (Previously Presented) A multilayer flexible printed wiring board according to claim 17 wherein the alloy comprises at least two of tin, lead, silver, zinc, bismuth, antimony and copper.

21. (Withdrawn) A method of producing a multilayer flexible wiring board comprising the steps of: boring a substrate made of an insulating material, and then forming on the bored side of said substrate the protruding two-layer conductor posts made of copper and a metal or copper and an alloy; forming a wiring pattern on the side of said substrate opposite from said two-layer conductor posts; forming an adhesive layer having a flux function over the whole surface of each of the substrates other than that of the outermost layer on the wiring pattern side having the pads opposite from said two-layer conductor post side by lamination or printing, thereby forming a single-sided wiring board; forming a flexible wiring board comprising a wiring pattern having on at least one side thereof the pads for joining to said two-layer conductor posts; forming an adhesive layer having a flux function on the wiring pattern side having the pads of said flexible wiring board over the whole surface or partially thereof by lamination or printing; and heat-press bonding said two-layer conductor posts and said pads through the medium of said adhesive layer.
22. (Withdrawn) Multilayer flexible wiring boards that can be obtained from the method set forth in claim 21.
23. (Withdrawn) A multilayer wiring board according to claim 12 wherein said surface coating includes an adhesive layer.
24. (Withdrawn) A multilayer wiring board according to claim 13 wherein said surface coating includes an adhesive layer.
25. (Withdrawn) A multilayer flexible printed wiring board according to claim 18 wherein the metal is at least one of gold, silver, nickel, tin, lead, zinc, bismuth, antimony and copper.
26. (Withdrawn) A multilayer flexible printed wiring board according to claim 18 wherein the alloy comprises at least two of tin, lead, silver, zinc, bismuth, antimony and copper.
27. (Withdrawn) A multilayer flexible printed wiring board according to claim 19 wherein the alloy comprises at least two of tin, lead, silver, zinc, bismuth, antimony and copper.

28. (Withdrawn) A circuit board according to claim 4 wherein each of said two-layer conductor posts is formed in a hole piercing said insulated substrate, and comprises a protruding terminal of which one end is connected to said conductor circuit and the other end projects from the other side of said insulated substrate, and a metal coating layer covering the portion of said protruding terminal which projects from the other side of said insulated substrate.

29. (Withdrawn) A multilayer wiring board comprising a laminate of plural circuit boards including the one set forth in claim 2.

30. (Withdrawn) A multilayer wiring board comprising a laminate of plural circuit boards including the one set forth in claim 4.

31. (Withdrawn) A multilayer wiring board in which a first circuit board comprising:

an insulated substrate;

a conductor circuit formed on one side of said insulated substrate; and

two-layer conductor posts electrically connected to said conductor circuit;

wherein a surface coating is provided on one side of said insulated substrate, said coating covering said conductor circuit with a part thereof left uncovered, and an adhesive layer having a flux function is provided on the other side of said insulated substrate is joined to both sides of another circuit board set forth below, a circuit board set forth in claim 1 is joined to said both circuit boards, and the conductor circuits of the respective circuit boards are electrically connected at the specified positions through said conductor posts, said another circuit board comprising:

an insulated substrate;

a conductor circuit formed on both sides of said insulated substrate;

a metallic layer formed covering a part of said conductor circuit; and

a surface coating covering the portion of said conductor circuit other than said metallic layer.

32. (Withdrawn) A multilayer wiring board comprising a laminate of plural circuit boards including a first circuit board comprising:

an insulated substrate;

a conductor circuit formed on one side of said substrate; and

two-layer conductor posts electrically connected to said conductor circuit;

wherein each of said two-layer conductor posts is formed in a hole piercing said insulated substrate and comprises a projecting terminal having its one end connected to said two-layer conductor circuit and its other end projecting from the other side of said insulated substrate, and a metal coating layer covering the portion of said terminal that projects out from the other side of said insulated substrate,

a second circuit board, according to claim 4,

and a third circuit board, comprising:

an insulated substrate;

a conductor circuit formed on both sides of said insulated substrate;

a metallic layer formed covering a part of said conductor circuit; and

a surface coating covering the portion of said conductor circuit other than said metallic layer.